

Analytical Data Package Prepared For

# Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains \_\_\_\_\_ Pages

Report Nbr: 34341

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05078	S07-012	B1LCJ0	J6L130210-1	JLDVP1AA	9JLDVP10	6353645
		B1LCF3	J6L130210-2	JLDVW1AA	9JLDVW10	6353645
		B1LD00	J6L130210-3	JLDV11AA	9JLDV110	6353645
		B1LD05	J6L130210-4	JLDV31AA	9JLDV310	6353645
		B1LCY5	J6L130210-5	JLDV41AA	9JLDV410	6353645
		B1LCX5	J6L130210-6	JLDV81AA	9JLDV810	6353645
		B1LCY0	J6L130210-7	JLDWG1AA	9JLDWG10	6353661
		B1LCY0	J6L130210-7	JLDWG1AC	9JLDWG10	6353646
		B1LCY0	J6L130210-7	JLDWG1AD	9JLDWG10	6353645
		B1LD15	J6L140107-1	JLFPN1AA	9JLFPN10	6353645
		B1LD20	J6L140107-2	JLFPP1AA	9JLFPP10	6353645
		B1LD10	J6L140107-3	JLFPQ1AA	9JLFPQ10	6353650
		B1LD10	J6L140107-3	JLFPQ1AC	9JLFPQ10	6353651
		B1LD10	J6L140107-3	JLFPQ1AD	9JLFPQ10	6353645
	S07-010	B1KPP2	J6L140110-1	JLFP21AA	9JLFP210	6353647

Comments:

# Report Nbr: 34341

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05078	S07-010	B1KPP2	J6L140110-1	JLFP21AC	9JLFP210	6353650
	W07-011	B1L646	J6L140151-1	JLF2P1AA	9JLF2P10	6353647
		B1L646	J6L140151-1	JLF2P1AC	9JLF2P10	6353650
		B1L646	J6L140151-1	JLF2P1AD	9JLF2P10	6353651
		B1L646	J6L140151-1	JLF2P1AE	9JLF2P10	6353657
		B1L646	J6L140151-1	JLF2P1AF	9JLF2P10	6353655
	I07-010	B1L279	J6L140156-1	JLF3X1AA	9JLF3X10	6353659
		B1L279	J6L140156-1	JLF3X1AC	9JLF3X10	6353661
		B1L279	J6L140156-1	JLF3X1AD	9JLF3X10	6353655
		B1L2C8	J6L140156-2	JLF341AA	9JLF3410	6353659
		B1L2C8	J6L140156-2	JLF341AC	9JLF3410	6353661
		B1L2C8	J6L140156-2	JLF341AD	9JLF3410	6353655
	I07-006	B1KYJ3	J6L140161-1	JLF421AA	9JLF4210	6353647
		B1KYJ3	J6L140161-1	JLF421AC	9JLF4210	6353661
	I07-011	B1L309	J6L140170-1	JLF621AA	9JLF6210	6353645
	S07-012	B1LCX0	J6L140251-1	JLGW51AA	9JLGW510	6353646
		B1LCX0	J6L140251-1	JLGW51AC	9JLGW510	6353645
		B1LCD3	J6L140291-1	JLG7H1AA	9JLG7H10	6353645
	I07-009	B1L1X9	J6L180168-1	JLPE31AA	9JLPE310	6353662
		B1L1X9	J6L180168-1	JLPE31AC	9JLPE310	6353654
		B1L1X9	J6L180168-1	JLPE31AD	9JLPE310	6353657
		B1L1X9	J6L180168-1	JLPE31AE	9JLPE310	6353659
		B1L1X9	J6L180168-1	JLPE31AF	9JLPE310	6353661
		B1L1X9	J6L180168-1	JLPE31AG	9JLPE310	6353655

Comments:

**STL Richland**2800 George Washington Way  
Richland, WA 99354Tel: 509 375 3131 Fax: 509 375 5590  
www.stl-inc.com**Certificate of Analysis**Pacific Northwest National Laboratories  
Sigma V Building  
Richland, WA 99352

January 27, 2007

Attention: Dot Stewart

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SAF Number	:	S07-012, S07-010, W07-011, I07-010, I06-006, I07-011, I07-009
Date SDG Closed	:	December 14, 2006
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W05078
Data Deliverable	:	45-Day / Summary

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**CASE NARRATIVE****I. Introduction**

Between December 11, 2006 and December 14, 2006, twenty water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B1LCY0	JLDWG	12/11/06	WATER
B1LCX5	JLDV8	12/11/06	WATER
B1LCY5	JLDV4	12/11/06	WATER
B1LD05	JLDV3	12/11/06	WATER
B1LD00	JLDV1	12/11/06	WATER
B1LCF3	JLDVW	12/11/06	WATER
B1LCJ0	JLDVP	12/11/06	WATER
B1LD10	JLFPQ	12/12/06	WATER
B1LD20	JLFPF	12/12/06	WATER
B1LD15	JLFPN	12/12/06	WATER
B1KPP2	JLFP2	12/12/06	WATER
B1L646	JLF2P	12/12/06	WATER

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B1L2C8	JLF34	12/12/06	WATER
B1L279	JLF3X	12/12/06	WATER
B1KYJ3	JLF42	12/12/06	WATER
B1L309	JLF62	12/12/06	WATER
B1LCX0	JLGW5	12/13/06	WATER
B1LCD3	JLG7H	12/13/06	WATER
B1KPD6	JLPEJ	12/14/06	WATER
B1L1X9	JLPE3	12/14/06	WATER

## II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

## III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

### Alpha Spectroscopy

Neptunium-237 by method RICH-RC-5009

Uranium 234, 235 and 238 by method RICH-RC-5039

### Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

### Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017

Iodine-129 (LL) by method RICH-RC-5025

### Liquid Scintillation Counting

Enriched Tritium by method RICH-RC-5024

Technetium-99 by TEVA method RICH-RC-5065

Tritium by method RICH-RC-5007

Carbon-14 by method RICH-RC-5022

### Laser Induced Phosphorimetry

Total Uranium by method RICH-RC-5058

## IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

**V. Comments**

**Alpha Spectroscopy**

Neptunium-237 by method RICH-RC-5009:

The LCS, batch blank, samples and sample duplicate (B1L1X9) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039

The LCS, batch blank, samples and sample duplicate (B1LCX0) results are within contractual requirements.

**Gas Proportional Counting**

Gross Alpha by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1LD10) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1L646) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1LCY0) results are within contractual requirements.

**Gamma Spectroscopy**

Gamma Spec (LL) by method RICH-RC-5017:

The LCS, batch blank, samples and sample duplicate (B1L1X9) results are within contractual requirements.

Iodine-129 (LL) by method RICH-RC-5025:

The LCS, batch blank, samples and sample duplicate (B1L2C8) results are within contractual requirements.

**Liquid Scintillation Counting**

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1L1X9), and sample matrix spike (B1L279) results are within contractual requirements.

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1KPP2) results are within contractual requirements.

Enriched Tritium by method RICH-RC-5024

The enriched tritium analysis was not completed at the time of reporting.

Carbon-14 by method RICH-RC-5022:

Pacific Northwest National Laboratories  
January 27, 2007

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The LCS, batch blank, samples and sample duplicate (B1L1X9) results are within contractual requirements.

**Total Uranium**

Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B1LD15), and sample matrix spike (B1LD20) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

A handwritten signature in cursive script, appearing to read "Sherryl A. Adam", written over a horizontal line.

Sherryl A. Adam  
Project Manager

## Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

## Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x, y, z, \dots)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

<b>Action Lev</b>	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
<b>Total Uncert (#s) <i>u<sub>c</sub> - Combined Uncertainty.</i></b>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
<b>Lc</b>	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgrndCnt / BkgrndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol) * IngrFct)$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
<b>Lot-Sample No</b>	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
<b>MDC MDA</b>	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{((BkgrndCnt / BkgrndCntMin) / SCntMin) + 2.71 / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol) * IngrFct)$ . For LSC methods the batch blank is used as a measure of the background variability.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
<b>Rst/MDC</b>	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
<b>Rst/TotUcert</b>	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.
<b>RER</b>	The equation Replicate Error Ratio = $(S - D) / [\sqrt{(TPUs^2 + TPUD^2)}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

1/27/2007 3:20:25 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R      FormatType: FEAD      Version: 05      Rpt Nbr: 34341      File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDV110	B1LD00		MW6-SBB-A1	S07-012	W05078					12/11/2006 10:14				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	1.91E+02	ug/L	2.3E+01	2.3E+01		7.73E-02		UTOT_KPA	2.71E-02	ML	01/24/2007 16:30	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDV310	B1LD05		MW6-SBB-A1	S07-012	W05078					12/11/2006 09:15				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	2.90E+01	ug/L	3.4E+00	3.4E+00		8.42E-02		UTOT_KPA	2.49E-02	ML	01/24/2007 16:35	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDV410	B1LCY5		MW6-SBB-A1	S07-012	W05078					12/11/2006 11:29				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	2.55E+01	ug/L	3.0E+00	3.0E+00		8.22E-02		UTOT_KPA	2.55E-02	ML	01/24/2007 16:36	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDV810	B1LCX5		MW6-SBB-A1	S07-012	W05078					12/11/2006 10:26				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	8.63E+00	ug/L	1.0E+00	1.0E+00		7.82E-02		UTOT_KPA	2.68E-02	ML	01/24/2007 16:38	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDVP10	B1LCJ0		MW6-SBB-A1	S07-012	W05078					12/11/2006 13:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	4.82E+00	ug/L	4.9E-01	4.9E-01		7.65E-02		UTOT_KPA	2.74E-02	ML	01/24/2007 16:22	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDVW10	B1LCF3		MW6-SBB-A1	S07-012	W05078					12/11/2006 13:51				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	6.50E+00	ug/L	7.7E-01	7.7E-01		8.28E-02		UTOT_KPA	2.53E-02	ML	01/24/2007 16:25	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLDWG10	B1LCY0		MW6-SBB-A1	S07-012	W05078					12/11/2006 12:17				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353661	SR-90	10098-97-2	2.04E-01	pCi/L	2.6E-01	2.8E-01	U	5.91E-01	59.6	SRISO_SEP_PRE	9.965E-01	L	01/21/2007 08:32	I

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

rptFeadRadSummaryEdd v3.48

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

1/27/2007 3:20:26 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34341 File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

6353646	U-234	13966-29-5	2.45E+01	pCi/L	1.7E+00	4.4E+00	1.45E-01	94.7	UIISO_PLATE_AEA	2.006E-01	L	01/16/2007	14:20	I
6353646	U-235	15117-96-1	7.55E-01	pCi/L	3.0E-01	3.3E-01	1.45E-01	94.7	UIISO_PLATE_AEA	2.006E-01	L	01/16/2007	14:20	I
6353646	U-238	U-238	2.31E+01	pCi/L	1.7E+00	4.2E+00	1.45E-01	94.7	UIISO_PLATE_AEA	2.006E-01	L	01/16/2007	14:20	I
6353645	Uranium	7440-61-1	6.79E+01	ug/L	8.0E+00	8.0E+00	8.25E-02		UTOT_KPA	2.54E-02	ML	01/24/2007	16:40	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLF2P10	B1L646		MW6-SBB-A1	W07-011	W05078					12/12/2006 12:19				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353647	H-3	10028-17-8	3.74E+03	pCi/L	2.4E+02	3.1E+02		3.30E+02	100.0	906.0_H3_LSC	5.00E-03	L	01/06/2007 08:38	I
6353650	ALPHA	12587-46-1	2.35E-01	pCi/L	8.3E-01	8.3E-01	U	1.94E+00	100.0	9310_ALPHABETA	1.592E-01	L	01/19/2007 18:03	I
6353651	BETA	12587-47-2	1.13E+02	pCi/L	5.1E+00	1.5E+01		2.83E+00	100.0	9310_ALPHABETA	2.043E-01	L	01/19/2007 13:27	I
6353657	BE-7	13966-02-4	4.19E+01	pCi/L	2.6E+01	2.6E+01	U	5.59E+01		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	CO-60	10198-40-0	-8.29E-01	pCi/L	2.1E+00	2.1E+00	U	3.90E+00		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	CS-134	13967-70-9	7.45E-01	pCi/L	2.4E+00	2.4E+00	U	4.74E+00		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	CS-137	10045-97-3	-8.69E-01	pCi/L	2.2E+00	2.2E+00	U	3.82E+00		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	EU-152	14683-23-9	-1.96E+00	pCi/L	5.4E+00	5.4E+00	U	9.49E+00		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	EU-154	15585-10-1	-8.58E-01	pCi/L	5.6E+00	5.6E+00	U	1.10E+01		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	EU-155	14391-16-3	2.98E+00	pCi/L	4.2E+00	4.2E+00	U	7.77E+00		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	K-40	13966-00-2	-5.47E+01	pCi/L	4.4E+01	4.4E+01	U	9.24E+01		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	RU-106	13967-48-1	5.70E+00	pCi/L	2.0E+01	2.0E+01	U	3.88E+01		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353657	SB-125	14234-35-6	3.14E+00	pCi/L	5.2E+00	5.2E+00	U	1.02E+01		GAMMALL_GS	1.999E+00	L	01/17/2007 14:30	I
6353655	TC-99	14133-76-7	4.60E+02	pCi/L	1.2E+01	3.3E+01		8.88E+00	100.0	TC99_ETVDSK_LS	1.262E-01	L	01/16/2007 00:16	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLF3410	B1L2C8		MW6-SBB-A1	I07-010	W05078					12/12/2006 13:14				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353659	I-129L	15046-84-1	7.65E-02	pCi/L	1.3E-01	1.3E-01	U	2.62E-01	98.4	I129LL_SEP_LEPS	3.8762E+00	L	01/25/2007 13:10	I
6353661	SR-90	10098-97-2	-6.40E-02	pCi/L	1.9E-01	1.9E-01	U	4.46E-01	83.2	SRISO_SEP_PRE	1.0088E+00	L	01/21/2007 12:01	I
6353655	TC-99	14133-76-7	1.52E+02	pCi/L	7.5E+00	1.5E+01		9.17E+00	100.0	TC99_ETVDSK_LS	1.257E-01	L	01/16/2007 03:24	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLF3X10	B1L279		MW6-SBB-A1	I07-010	W05078					12/12/2006 10:09				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353659	I-129L	15046-84-1	-2.77E-02	pCi/L	1.2E-01	1.2E-01	U	2.27E-01	95.1	I129LL_SEP_LEPS	3.8766E+00	L	01/25/2007 13:10	I

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

rptFeadRadSummaryEdd v3.48

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

1/27/2007 3:20:26 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34341 File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

6353661	SR-90	10098-97-2	2.54E-01	pCi/L	2.2E-01	2.2E-01	U	4.15E-01	80.9	SRISO_SEP_PRE	1.0027E+00	L	01/21/2007 12:01	I
6353655	TC-99	14133-76-7	6.96E+01	pCi/L	6.0E+00	9.8E+00		9.78E+00	100.0	TC99_ETVDSK_LS	1.259E-01	L	01/16/2007 01:19	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLF4210	B1KYJ3		MW6-SBB-A1	I07-006	W05078					12/12/2006 10:32				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353647	H-3	10028-17-8	1.63E+01	pCi/L	1.4E+02	1.5E+02	U	3.29E+02	100.0	906.0_H3_LSC	5.00E-03	L	01/06/2007 10:00	I
6353661	SR-90	10098-97-2	-6.81E-02	pCi/L	2.5E-01	2.5E-01	U	5.81E-01	60.9	SRISO_SEP_PRE	1.002E+00	L	01/21/2007 12:01	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLF6210	B1L309		MW6-SBB-A1	I07-011	W05078					12/12/2006 12:26				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	2.91E+00	ug/L	3.0E-01	3.0E-01		8.19E-02		UTOT_KPA	2.56E-02	ML	01/24/2007 16:56	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLFP210	B1KPP2		MW6-SBB-A1	S07-010	W05078					12/12/2006 09:28				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353647	H-3	10028-17-8	-2.13E+01	pCi/L	1.3E+02	1.5E+02	U	3.30E+02	100.0	906.0_H3_LSC	5.00E-03	L	01/06/2007 05:53	I
6353650	ALPHA	12587-46-1	5.92E+00	pCi/L	2.1E+00	2.5E+00		1.92E+00	100.0	9310_ALPHABETA	1.157E-01	L	01/19/2007 18:03	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLFPN10	B1LD15		MW6-SBB-A1	S07-012	W05078					12/12/2006 11:08				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	2.64E+01	ug/L	3.1E+00	3.1E+00		8.35E-02		UTOT_KPA	2.51E-02	ML	01/24/2007 16:42	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLFP10	B1LD20		MW6-SBB-A1	S07-012	W05078					12/12/2006 11:55				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	6.49E+01	ug/L	7.6E+00	7.6E+00		8.38E-02		UTOT_KPA	2.50E-02	ML	01/24/2007 16:46	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLFPQ10	B1LD10		MW6-SBB-A1	S07-012	W05078					12/12/2006 13:17				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353650	ALPHA	12587-46-1	4.52E+01	pCi/L	6.4E+00	1.2E+01		1.94E+00	100.0	9310_ALPHABETA	1.997E-01	L	01/19/2007 16:34	I

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

rptFeadRadSummaryEdd v3.48

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

1/27/2007 3:20:26 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34341 File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

6353651	BETA	12587-47-2	3.66E+01	pCi/L	3.1E+00	5.6E+00	2.93E+00	100.0	9310_ALPHABETA	2.086E-01	L	01/19/2007	13:27	I
6353645	Uranium	7440-61-1	1.05E+02	ug/L	1.2E+01	1.2E+01	8.35E-02		UTOT_KPA	2.51E-02	ML	01/24/2007	16:54	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLG7H10	B1LCD3		MW6-SBB-A1	S07-012	W05078					12/13/2006 09:00				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353645	Uranium	7440-61-1	4.34E-02	ug/L	7.9E-03	7.9E-03	U	7.59E-02		UTOT_KPA	2.76E-02	ML	01/24/2007 16:59	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLGW510	B1LCX0		MW6-SBB-A1	S07-012	W05078					12/13/2006 08:47				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353646	U-234	13966-29-5	1.22E+01	pCi/L	1.2E+00	2.3E+00		1.73E-01	110.4	UIISO_PLATE_AEA	2.002E-01	L	01/16/2007 14:20	I
6353646	U-235	15117-96-1	4.29E-01	pCi/L	2.3E-01	2.4E-01		1.47E-01	110.4	UIISO_PLATE_AEA	2.002E-01	L	01/16/2007 14:20	I
6353646	U-238	U-238	1.12E+01	pCi/L	1.2E+00	2.2E+00		1.47E-01	110.4	UIISO_PLATE_AEA	2.002E-01	L	01/16/2007 14:20	I
6353645	Uranium	7440-61-1	3.02E+01	ug/L	3.6E+00	3.6E+00		8.12E-02		UTOT_KPA	2.58E-02	ML	01/24/2007 16:58	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JLPE310	B1L1X9		MW6-SBB-A1	I07-009	W05078					12/14/2006 11:14				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353654	C-14	14762-75-5	2.43E+00	pCi/L	3.4E+00	6.8E+00	U	8.03E+00	100.0	C14_LSC	2.00E-01	L	01/19/2007 11:42	I
6353657	BE-7	13966-02-4	-5.72E-01	pCi/L	2.2E+01	2.2E+01	U	4.04E+01		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	CO-60	10198-40-0	9.16E-02	pCi/L	2.8E+00	2.8E+00	U	5.37E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	CS-134	13967-70-9	-8.29E-01	pCi/L	2.3E+00	2.3E+00	U	4.00E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	CS-137	10045-97-3	4.63E-01	pCi/L	2.3E+00	2.3E+00	U	4.32E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	EU-152	14683-23-9	1.59E+00	pCi/L	5.2E+00	5.2E+00	U	9.63E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	EU-154	15585-10-1	1.62E-01	pCi/L	8.6E+00	8.6E+00	U	1.61E+01		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	EU-155	14391-16-3	-3.58E+00	pCi/L	3.4E+00	3.4E+00	U	5.41E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	K-40	13966-00-2	-1.24E+01	pCi/L	4.8E+01	4.8E+01	U	1.08E+02		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	RU-106	13967-48-1	-2.36E+00	pCi/L	2.1E+01	2.1E+01	U	3.89E+01		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353657	SB-125	14234-35-6	-2.08E+00	pCi/L	4.8E+00	4.8E+00	U	8.35E+00		GAMMALL_GS	1.95E+00	L	01/17/2007 14:31	I
6353659	I-129L	15046-84-1	-2.69E-02	pCi/L	1.3E-01	1.3E-01	U	2.29E-01	97.8	I129LL_SEP_LEPS	3.8905E+00	L	01/25/2007 16:30	I
6353662	NP-237	13994-20-2	-1.64E-02	pCi/L	8.5E-02	8.5E-02	U	2.32E-01	98.5	NP237_LLE_PLAT	2.006E-01	L	01/17/2007 17:54	I
6353661	SR-90	10098-97-2	2.10E-01	pCi/L	2.2E-01	2.2E-01	U	4.39E-01	80.3	SRISO_SEP_PRE	1.0031E+00	L	01/21/2007 12:01	I

STL Richland

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

1/27/2007 3:20:26 PM

## STL Richland Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

Version: 05

Rpt Nbr: 34341

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

6353655 TC-99 14133-76-7 5.74E+02 pCi/L 1.3E+01 4.0E+01 8.56E+00 100.0 TC99\_ETVDSK\_LS 1.254E-01 L 01/16/2007 04:27 I

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadI\Rad\W05078.Edd, h:\Reportdb\edd\FeadI\Rad\34341.Edd

Lab Sample Id: JLTJ21AB

Sdg/Rept Nbr: W05078 34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BG	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353654	C-14	5.34E+00	pCi/L	7.1E+00	U	8.03E+00	100.0		C14_LSC	2.00E-01	01/19/2007				D
BLK	14762-75-5			3.5E+00						L	10:17				

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ41AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/14/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
		MW6-SBB-A19981																BI		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353655	TC-99	-7.99E+00	pCi/L	5.0E+00	U	8.13E+00	100.0		TC99_ETVDSK	1.254E-01	01/16/2007				D						
BLK	14133-76-7			3.4E+00						L	06:32										

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ51AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								BK	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353657 BLK	BE-7 13966-02-4	-5.17E+00	pCi/L	2.2E+01 2.2E+01	U	3.92E+01			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	CO-60 10198-40-0	-6.66E-01	pCi/L	2.2E+00 2.2E+00	U	4.12E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	CS-134 13967-70-9	7.72E-01	pCi/L	2.6E+00 2.6E+00	U	5.11E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	CS-137 10045-97-3	-1.61E-01	pCi/L	2.2E+00 2.2E+00	U	4.07E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	EU-152 14683-23-9	-5.06E+00	pCi/L	5.4E+00 5.4E+00	U	8.69E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	EU-154 15585-10-1	-3.77E+00	pCi/L	7.0E+00 7.0E+00	U	1.21E+01			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	EU-155 14391-16-3	2.84E+00	pCi/L	4.3E+00 4.3E+00	U	8.41E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	K-40 13966-00-2	6.86E+00	pCi/L	5.6E+01 5.6E+01	U	1.26E+02			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	RU-106 13967-48-1	-9.14E+00	pCi/L	2.0E+01 2.0E+01	U	3.49E+01			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D
6353657 BLK	SB-125 14234-35-6	9.19E-01	pCi/L	4.8E+00 4.8E+00	U	9.01E+00			GAMMALL_GS	1.9992E+00 L	01/17/2007 14:32				D

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ61AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User	Case Nbr		SAS Nbr	Suffix	Decant	Distilled Volume		File Id		FSuffix	RTyp
		MW6-SBB-A19981												BM	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353659	I-129L	1.86E-01	pCi/L	1.0E-01	U	2.67E-01	100.0		I129LL_SEP_L	3.8594E+00	01/25/2007				D
BLK	15046-84-1			1.0E-01						L	16:31				

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ71AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/11/2006 12:17

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/11/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353661	SR-90	5.20E-02	pCi/L	2.8E-01	U	6.11E-01	60.1		SRISO_SEP_P	1.0019E+00	01/21/2007				D
BLK	10098-97-2			2.8E-01						L	12:01				

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ81AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BQ	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353662	NP-237	4.12E-02	pCi/L	1.1E-01	U	2.47E-01	80.2		NP237_LLE_P	2.012E-01	01/17/2007				D
BLK	13994-20-2			1.1E-01						L	17:55				

Saturday, January 27, 2007

# STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJM1AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 11:08

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BS	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353645	Uranium	0.00E+00	ug/L	0.0E+00	U	2.10E-01			UTOT_KPA	2.54E-02	01/24/2007				D
BLK	7440-61-1			0.0E+00							16:08				

Saturday, January 27, 2007

# STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJN1AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/13/2006 08:47

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/13/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
		MW6-SBB-A19981																BV		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353646	U-234	-6.01E-03	pCi/L	6.1E-02	U	1.44E-01	90.4		UIISO_PLATE_	2.025E-01	01/16/2007					D					
BLK	13966-29-5			6.1E-02						L	14:20										
6353646	U-235	-6.01E-03	pCi/L	6.1E-02	U	1.44E-01	90.4		UIISO_PLATE_	2.025E-01	01/16/2007					D					
BLK	15117-96-1			6.1E-02						L	14:20										
6353646	U-238	5.41E-02	pCi/L	8.6E-02	U	1.44E-01	90.4		UIISO_PLATE_	2.025E-01	01/16/2007					D					
BLK	U-238			8.6E-02						L	14:20										

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJP1AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 09:28

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353647	H-3	3.85E+01	pCi/L	1.5E+02	U	3.30E+02	100.0		906.0_H3_LSC	5.00E-03	01/06/2007				D
BLK	10028-17-8			1.4E+02						L	00:24				

Saturday, January 27, 2007

# STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJP1DX

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 09:28

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								BZ	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353647	H-3	1.36E+02	pCi/L	1.6E+02	U	3.33E+02	100.0		906.0_H3_LSC	5.00E-03	01/06/2007				D
BLK	10028-17-8			1.4E+02						L	03:09				

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJT1AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:17

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353650	ALPHA	1.29E-01	pCi/L	2.8E-01	U	6.11E-01	100.0		9310__ALPHAB	1.993E-01	01/19/2007				D
BLK	12587-46-1			2.8E-01						L	18:03				

Saturday, January 27, 2007

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJV1AB

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 12:19

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BLK

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
		MW6-SBB-A19981																CD		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353651	BETA	1.29E+00	pCi/L	1.2E+00	U	2.47E+00	100.0		9310_ALPHAB	2.002E-01	01/19/2007				D						
BLK	12587-47-2			1.2E+00						L	13:27										

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ21CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								BH	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353654	C-14	5.18E+01	pCi/L	1.2E+01		8.03E+00	100.0	4.58E+01	C14_LSC	2.00E-01	01/19/2007			70	D
BS	14762-75-5			4.9E+00				113.2		L	11:00			130	

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ41CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BJ	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353655	TC-99	4.49E+02	pCi/L	3.2E+01		9.27E+00	100.0	5.41E+02	TC99_ETVDSK	1.252E-01	01/16/2007			70	D
BS	14133-76-7			1.2E+01				82.9		L	07:35			130	

Saturday, January 27, 2007

## STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ51CS

Sdg/Rept Nbr: W05078 34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BL	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353657 BS	CO-60 10198-40-0	3.40E+01	pCi/L	8.0E+00 8.0E+00		5.38E+00		3.78E+01 89.9	GAMMALL_GS	2.0022E+00 L	01/17/2007 14:33			70 130	D
6353657 BS	CS-137 10045-97-3	2.61E+01	pCi/L	5.8E+00 5.8E+00		4.99E+00		2.51E+01 104.0	GAMMALL_GS	2.0022E+00 L	01/17/2007 14:33			70 130	D
6353657 BS	EU-152 14683-23-9	5.74E+01	pCi/L	1.5E+01 1.5E+01		1.25E+01		7.63E+01 75.2	GAMMALL_GS	2.0022E+00 L	01/17/2007 14:33			70 130	D

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ61CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BN	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353659	I-129L	8.01E+00	pCi/L	1.1E+00		4.91E-01	99.6	9.92E+00	I129LL_SEP_L	3.8584E+00	01/25/2007			70	D
BS	15046-84-1			1.1E+00				80.7		L	16:32			130	

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ71CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/11/2006 12:17

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/11/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
		MW6-SBB-A19981																BP		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353661	SR-90	1.31E+01	pCi/L	2.1E+00		5.71E-01	69.1	1.37E+01	SRISO_SEP_P	1.0017E+00	01/21/2007			70	D						
BS	10098-97-2			8.8E-01				95.6		L	12:01			130							

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJ81CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								BR	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353662	NP-237	1.01E+01	pCi/L	2.1E+00		2.88E-01	71.5	9.18E+00	NP237_LLE_P	2.007E-01	01/17/2007			70	D
BS	13994-20-2			1.6E+00				109.9		L	17:55			130	

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJM1CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 11:08

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								BT	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353645	Uranium	3.55E+01	ug/L	4.2E+00		8.15E-02		3.55E+01	UTOT_KPA	2.57E-02	01/24/2007			70	D
BS	7440-61-1			4.2E+00				99.9		ML	16:18			130	

Saturday, January 27, 2007

## STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJM1DS

Sdg/Rept Nbr: W05078 34341

Collection Date: 12/12/2006 11:08

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BU	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353645	Uranium	3.63E+00	ug/L	3.7E-01		8.09E-02		3.48E+00	UTOT_KPA	2.59E-02	01/24/2007			70	D
BS	7440-61-1			3.7E-01				104.4		ML	16:20			130	

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJN1CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/13/2006 08:47

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/13/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BW	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353646	U-234	9.06E+00	pCi/L	1.9E+00		1.76E-01	83.6	8.64E+00	UIISO_PLATE_	1.998E-01	01/16/2007			70	D
BS	13966-29-5			1.2E+00				104.8		L	14:20			130	
6353646	U-238	8.73E+00	pCi/L	1.9E+00		1.76E-01	83.6	9.05E+00	UIISO_PLATE_	1.998E-01	01/16/2007			70	D
BS	U-238			1.1E+00				96.4		L	14:20			130	

Saturday, January 27, 2007

## STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJP1CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 09:28

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								BY	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353647	H-3	2.61E+03	pCi/L	2.6E+02		3.30E+02	100.0	2.72E+03	906.0_H3_LSC	5.00E-03	01/06/2007			70	D
BS	10028-17-8			2.2E+02				95.9		L	01:46			130	

Saturday, January 27, 2007

## STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJP1EM

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 09:28

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								CA	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353647	H-3	2.53E+03	pCi/L	2.6E+02		3.35E+02	100.0	2.72E+03	906.0_H3_LSC	5.00E-03	01/06/2007			70	D
BS	10028-17-8			2.2E+02				93.2		L	04:31			130	

Saturday, January 27, 2007

## STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJT1CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:17

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp				
	MW6-SBB-A19981								CC	H				
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Tot/Cnt Unit Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353650	ALPHA	2.08E+01	pCi/L	5.3E+00		7.77E-01	100.0	2.31E+01	9310_ALPHAB	1.98E-01	01/19/2007		70	D
BS	12587-46-1		2.1E+00				90.0		L	18:03			130	

Saturday, January 27, 2007

# STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLTJV1CS

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 12:19

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: BS

Received Date: 12/12/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	MW6-SBB-A19981								CE	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353651	BETA	2.45E+01	pCi/L	4.0E+00		2.46E+00	100.0	2.23E+01	9310_ALPHAB	2.019E-01	01/19/2007			70	D
BS	12587-47-2			2.4E+00				110.1		L	13:27			130	

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLDWG1ER

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/11/2006 12:17

Client Id: B1LCY0

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/11/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-012		MW6-SBB-A19981																AT		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353661	SR-90	1.80E-01	pCi/L	2.4E-01	U	4.89E-01	71.3		SRISO_SEP_P	9.984E-01	01/21/2007	12.6	0.1		D						
DUP	10098-97-2	2.04E-01		2.4E-01						L	08:32	20.0	3								

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLF2P1GR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 12:19

Client Id: B1L646

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User	Case Nbr		SAS Nbr	Suffix	Decant	Distilled Volume		File Id		FSuffix	RTyp
W07-011		MW6-SBB-A19981												AU	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353651	BETA	1.17E+02	pCi/L	1.6E+01		2.79E+00	100.0		9310_ALPHAB	2.028E-01	01/19/2007	3.6	0.4		D
DUP	12587-47-2	1.13E+02		5.2E+00						L	13:27	20.0	3		

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLF341ER

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:14

Client Id: B1L2C8

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
I07-010		MW6-SBB-A19981																AV		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353659	I-129L	-7.88E-02	pCi/L	1.3E-01	U	2.19E-01	98.6		I129LL_SEP_L	3.8983E+00	01/25/2007	0.0	1.7		D						
DUP	15046-84-1	7.65E-02		1.3E-01						L	13:10	20.0	3								

Saturday, January 27, 2007

## STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLFP21DR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 09:28

Client Id: B1KPP2

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-010		MW6-SBB-A19981																AX		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353647	H-3	-1.03E+02	pCi/L	1.5E+02	U	3.28E+02	100.0		906.0_H3_LSC	5.00E-03	01/06/2007	0.0	0.8		D						
DUP	10028-17-8	-2.13E+01		1.3E+02						L	07:15	20.0	3								

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLFPN1CR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 11:08

Client Id: B1LD15

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-012		MW6-SBB-A19981																AY		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353645	Uranium	2.63E+01	ug/L	3.1E+00		7.79E-02			UTOT_KPA	2.69E-02	01/24/2007	.1	0.		D						
DUP	7440-61-1	2.64E+01		3.1E+00						ML	16:44	20.0	3								

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLFPQ1ER

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 13:17

Client Id: B1LD10

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-012		MW6-SBB-A19981																BA		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353650	ALPHA	5.06E+01	pCi/L	1.3E+01		2.18E+00	100.0		9310_ALPHAB	2.019E-01	01/19/2007	11.2	0.6		D						
DUP	12587-46-1	4.52E+01		6.7E+00						L	16:34	20.0	3								

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLGW51DR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/13/2006 08:47

Client Id: B1LCX0

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/13/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-012		MW6-SBB-A19981																BB		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353646	U-234	1.06E+01	pCi/L	2.1E+00		1.72E-01	100.2		UIISO_PLATE_	2.008E-01	01/16/2007	14.3	1.1		D						
DUP	13966-29-5	1.22E+01		1.1E+00						L	14:20	20.0	3								
6353646	U-235	3.34E-01	pCi/L	2.1E-01		1.45E-01	100.2		UIISO_PLATE_	2.008E-01	01/16/2007	24.9	0.6		D						
DUP	15117-96-1	4.29E-01		2.0E-01						L	14:20	20.0	3								
6353646	U-238	1.11E+01	pCi/L	2.2E+00		1.72E-01	100.2		UIISO_PLATE_	2.008E-01	01/16/2007	.7	0.1		D						
DUP	U-238	1.12E+01		1.2E+00						L	14:20	20.0	3								

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLPE31HR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: B1L1X9

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
I07-009	MW6-SBB-A19981								BC	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353654	C-14	8.81E-02	pCi/L	6.5E+00	U	8.03E+00	100.0		C14_LSC	2.00E-01	01/19/2007	186.0	0.5		D
DUP	14762-75-5	2.43E+00		3.3E+00						L	12:25	20.0	3		

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W05078.Edd, h:\Reportdb\eddd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLPE31JR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: B1L1X9

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/14/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
I07-009		MW6-SBB-A19981																BD		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353655	TC-99	6.41E+02	pCi/L	4.4E+01		9.27E+00	100.0		TC99_ETVDSK	1.253E-01	01/16/2007	11.0	2.1		D						
DUP	14133-76-7	5.74E+02		1.4E+01						L	05:30	20.0	3								

Saturday, January 27, 2007

## STL Richland QC Duplicate Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLPE31KR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: B1L1X9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/14/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
107-009		MW6-SBB-A19981																BE		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353657 DUP	BE-7 13966-02-4	4.13E+00 -5.72E-01	pCi/L	2.4E+01 2.4E+01	U	4.61E+01			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	264.3 20.0	0.3 3		D						
6353657 DUP	CO-60 10198-40-0	-1.34E-01 9.16E-02	pCi/L	1.8E+00 1.8E+00	U	3.65E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	0.2 3		D						
6353657 DUP	CS-134 13967-70-9	-3.15E-01 -8.29E-01	pCi/L	2.4E+00 2.4E+00	U	4.32E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	0.3 3		D						
6353657 DUP	CS-137 10045-97-3	3.79E-02 4.63E-01	pCi/L	1.6E+00 1.6E+00	U	3.10E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	169.7 20.0	0.4 3		D						
6353657 DUP	EU-152 14683-23-9	4.73E+00 1.59E+00	pCi/L	4.6E+00 4.6E+00	U	9.27E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	99.4 20.0	1. 3		D						
6353657 DUP	EU-154 15585-10-1	1.23E+00 1.62E-01	pCi/L	7.6E+00 7.6E+00	U	1.49E+01			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	153.4 20.0	0.2 3		D						
6353657 DUP	EU-155 14391-16-3	-6.47E-01 -3.58E+00	pCi/L	3.6E+00 3.6E+00	U	6.35E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	1.1 3		D						
6353657 DUP	K-40 13966-00-2	-1.15E+00 -1.24E+01	pCi/L	3.3E+01 3.3E+01	U	6.99E+01			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	0.5 3		D						
6353657 DUP	RU-106 13967-48-1	9.31E-01 -2.36E+00	pCi/L	1.7E+01 1.7E+01	U	3.23E+01			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	0.3 3		D						
6353657 DUP	SB-125 14234-35-6	9.28E-01 -2.08E+00	pCi/L	4.7E+00 4.7E+00	U	8.87E+00			GAMMALL_GS	1.9303E+00 L	01/17/2007 14:32	0.0 20.0	0.9 3		D						

Saturday, January 27, 2007

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLPE31LR

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/14/2006 11:14

Client Id: B1L1X9

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: DUP

Received Date: 12/14/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
I07-009	MW6-SBB-A19981								BF	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353662	NP-237	-2.48E-02	pCi/L	8.7E-02	U	2.60E-01	105.8		NP237_LLE_P	2.021E-01	01/17/2007	0.0	0.1		D
DUP	13994-20-2	-1.64E-02		8.7E-02						L	17:55	20.0	3		

Saturday, January 27, 2007

## STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLF3X1EW

Sdg/Rept Nbr: W05078 34341

Collection Date: 12/12/2006 10:09

Client Id: B1L279

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User	Case Nbr		SAS Nbr	Suffix	Decant	Distilled Volume		File Id		FSuffix	RTyp
I07-010		MW6-SBB-A19981												AW	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353655	TC-99	2.53E+03	pCi/L	1.6E+02		8.33E+00	100.0	3.54E+03	TC99_ETVDSK	1.271E-01	01/16/2007			60	D
MS	14133-76-7			2.5E+01				71.5		L	02:21			140	

Saturday, January 27, 2007

# STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05078.Edd, h:\Reportdb\edd\FeadIV\Rad\34341.Edd

Lab Sample Id: JLFPP1CW

Sdg/Rept Nbr: W05078

34341

Collection Date: 12/12/2006 11:55

Client Id: B1LD20

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type: MS

Received Date: 12/12/2006

SAF Nbr		Contract Nbr		Test User		Case Nbr		SAS Nbr		Suffix		Decant		Distilled Volume		File Id		FSuffix		RTyp	
S07-012		MW6-SBB-A19981																AZ		H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ						
6353645	Uranium	3.77E+01	ug/L	1.4E+01		8.00E-02		3.49E+01	UTOT_KPA	2.62E-02	01/24/2007			60	D						
MS	7440-61-1			1.4E+01				108.0		ML	16:48			140							

Lot No., Due Date: J6L180168; 01/29/2007  
 Client, Site: 384868; PGW 615HANFORD HANFORD  
 QC Batch No., Method Test: 6353662; RNP237 Np-237 w/tracer  
 SDG, Matrix: W05078; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used OK	Yes	No	N/A
8.07	The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09	Method Blank is within Control Limits. OK	Yes	No	N/A
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes	No	N/A
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13	QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. Tracers Exceeds Control Limit => => JLPE31AL Np-239 106 L:20 105 Q:S2	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22	Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK	Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => NP-237  OK; No Callin Level Found => NP-237	Yes	No	N/A
8.24	Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A
8.25	Counting Spectrum are within FWHM Limits. FWHM > maxFWHM => JLTJ81AC NP-237 88.1>0 Q:V1	Yes	No	N/A

8.26 Instruments have Current Calibrations.

Yes No N/A

8.27 Correct Count Library Used.

Yes No N/A

Library Not Specified => JLPE31AA I:[NUC\_LIBR]ALPHA Q:

JLPE31AL I:[NUC\_LIBR]ALPHA Q:

JLTJ81AA I:[NUC\_LIBR]ALPHA Q:

JLTJ81AC I:[NUC\_LIBR]ALPHA Q:

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate.

Yes No N/A

OK



First Level Review

*Pam Anderson*

Date

*1-23-07*



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353662  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?	/		
C. Other			
1. Are all Nonconformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response:

Second Level Review:

*Sherry A Adams*

Date: 1-23-07

Lot No., Due Date: J6L130210,J6L140251; 01/29/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6353646; RUI SO UIso by ALP  
SDG, Matrix: W05078; WATER

8.0 Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02 Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06 At Least the Minimum Sample Volume Was Used OK	Yes	No	N/A
8.07 The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09 Method Blank is within Control Limits. OK	Yes	No	N/A
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes	No	N/A
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> JLGW51AD U-235 25.0 (RPD)	Yes	No	N/A
8.14 LCS within Control Limits. OK	Yes	No	N/A
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17 Tracer within Control Limits. Tracers Exceeds Control Limit => => JLGW51AA U-232 110 L:20 105 Q:S2	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JLDWG1AC U-234 2.5E+01 L:1.4E-01 JLDWG1AC U-235 7.6E-01 L:1.4E-01 JLDWG1AC U-238 2.3E+01 L:1.4E-01 JLGW51AA U-234 1.2E+01 L:1.7E-01 JLGW51AA U-235 4.3E-01 L:1.5E-01 JLGW51AA U-238 1.1E+01 L:1.5E-01	Yes	No	N/A
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => U-234 U-235 U-238	Yes	No	N/A

OK; No Callin Level Found => U-234

U-235

U-238

8.24 Result + 3s >=0, Not Too Negative.

OK

Yes No N/A



8.25 Counting Spectrum are within FWHM Limits.

FWHM > maxFWHM => JLDWG1AC U-234 44.3>0

JLGW51AA U-234 32.157>0

JLGW51AD U-234 26.019>0

JLTJN1AC U-234 26.092>0 Q:V1

Yes No N/A



8.26 Instruments have Current Calibrations.

Yes No N/A

8.27 Correct Count Library Used.

Library Not Specified => JLDWG1AC I:[NUC\_LIBR]AR\_U. Q:

JLGW51AA I:[NUC\_LIBR]AR\_U. Q:

JLGW51AD I:[NUC\_LIBR]AR\_U. Q:

JLTJN1AA I:[NUC\_LIBR]AR\_U. Q:

JLTJN1AC I:[NUC\_LIBR]AR\_U. Q:

Yes No N/A

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions.)



8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions.)



8.3 Comments:

8.31 Results Blank Subtracted as Appropriate.

OK

Yes No N/A



First Level Review

*Pam Anderson*

Date

*1-23-07*



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353646  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?	✓		✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

*Sheryl A Adam*

Date:

1-23-07

Lot No., Due Date: J6L140151,J6L140110,J6L140107; 01/29/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 6353650; RALPHA-A Alpha by GPC-Am

SDG, Matrix: W05078; WATER

8.0 Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02 Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => JLFP21AC 115.70<200.00 JLFP21AC 159.20<200.00 Q:VB	Yes	No	N/A
8.07 The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09 Method Blank is within Control Limits. OK	Yes	No	N/A
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes	No	N/A
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes	No	N/A
8.14 LCS within Control Limits. OK	Yes	No	N/A
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17 Tracer within Control Limits. OK	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JLFPQ1AA ALPHA 4.5E+01 L:1.9E+00 JLFP21AC ALPHA 5.9E+00 L:1.9E+00	Yes	No	N/A
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => ALPHA  OK; No Callin Level Found => ALPHA	Yes	No	N/A
8.24 Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A

8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.3 Comments:			
8.31 Results Blank Subtracted as Appropriate. OK	Yes <input checked="" type="checkbox"/>	No	N/A

First Level Review

*Loa Antonson* *Pam Anderson*

Date 1/23/07

STL Richland

QAS\_RADCALCv4.8.26

1-23-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353650  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Second Level Review:

Sherryll A Adams

Date: 1-23-07

Lot No., Due Date: J6L140151,J6L140107; 01/29/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6353651; RBETA-SR Beta by GPC-Sr/Y  
SDG, Matrix: W05078; WATER

8.0 Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02 Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06 At Least the Minimum Sample Volume Was Used OK	Yes	No	N/A
8.07 The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09 Method Blank is within Control Limits. OK	Yes	No	N/A
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes	No	N/A
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes	No	N/A
8.14 LCS within Control Limits. OK	Yes	No	N/A
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17 Tracer within Control Limits. OK	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JLFPQ1AC BETA 3.7E+01 L:2.9E+00 JLF2P1AD BETA 1.1E+02 L:2.8E+00	Yes	No	N/A
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => BETA  OK; No Callin Level Found => BETA	Yes	No	N/A
8.24 Result + 3s >=0, Not Too Negative. OK	Yes	No	N/A
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A

8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.3 Comments:			
8.31 Results Blank Subtracted as Appropriate. OK	Yes	No	N/A <input checked="" type="checkbox"/>

First Level Review

*[Signature]* *[Signature]*

Date 1/23/07

STL Richland

QAS\_RADCALCv4.8.26

1-23-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353651  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review:

Sherryl A Adams

Date: 1-23-07

Lot No., Due Date: J6L130210,J6L140156,J6L140161,J6L180168; 01/29/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6353661; RSR85907 Sr-85/90 by GPC-7  
SDG, Matrix: W05078; WATER

**1.0 COC**

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes ☒ No ☐ N/A ☐

**2.0 QC Batch**

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes ☒ No ☐ N/A ☐

2.2 Are the QC appropriate for the analysis included in the batch? Yes ☒ No ☐ N/A ☐

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes ☒ No ☐ N/A ☐

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes ☒ No ☐ N/A ☐

**3.0 QC & Samples**

3.1 Is the blank results, yield, and MDA within contract limits? Yes ☒ No ☐ N/A ☐

3.2 Is the LCS result, yield, and MDA within contract limits? Yes ☒ No ☐ N/A ☐

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes ☒ No ☐ N/A ☐

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes ☒ No ☐ N/A ☐

3.5 Are the sample yields and MDAs within contract limits? Yes ☒ No ☐ N/A ☐

**4.0 Raw Data**

4.1 Were results calculated in the correct units? Yes ☒ No ☐ N/A ☐

4.2 Were analysis volumes entered correctly? Yes ☒ No ☐ N/A ☐

4.3 Were Yields entered correctly? Yes ☒ No ☐ N/A ☐

4.4 Were spectra reviewed/meet contractual requirements? Yes ☒ No ☐ N/A ☐

4.5 Were raw counts reviewed for anomalies? Yes ☒ No ☐ N/A ☐

**5.0 Other**

5.1 Are all nonconformances included and noted? Yes ☐ No ☐ N/A ☒

5.2 Are all required forms filled out? Yes ☒ No ☐ N/A ☐

5.3 Was the correct methodology used? Yes ☒ No ☐ N/A ☐

5.4 Was transcription checked? Yes ☒ No ☐ N/A ☐

5.5 Were all calculations checked at a minimum frequency? Yes ☒ No ☐ N/A ☐

5.6 Are worksheet entries complete and correct? Yes ☒ No ☐ N/A ☐

6.0 Comments on any No response:

First Level Review

*Paul Anderson*  
1-23-07

Date

*1/23/07*



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353661  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

*Sherry A. Adam*

Date:

1-23-07

Lot No., Due Date: J6L140151, J6L180168; 01/29/2007  
Client, Site: 384868; PGW 615 HANFORD HANFORD  
QC Batch No., Method Test: 6353657; RGAMMA Gamma by GER  
SDG, Matrix: W05078; WATER

**1.0 COC**

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

**2.0 QC Batch**

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

**3.0 QC & Samples**

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

**4.0 Raw Data**

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

**5.0 Other**

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

First Level Review

*Pam Anderson*

Date 1-23-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353657  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

*Sheryl A Adams*

Date:

1-23-07

Lot No., Due Date: J6L140156, J6L180168; 01/29/2007  
Client, Site: 384868; PGW 615 HANFORD HANFORD  
QC Batch No., Method Test: 6353659; RGAMLEPS Gamma by LEPS  
SDG, Matrix: W05078; WATER

**1.0 COC**

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

**2.0 QC Batch**

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

**3.0 QC & Samples**

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

**4.0 Raw Data**

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

**5.0 Other**

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

First Level Review *Pam Anderson*

Date *1-26-07*



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353659  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

Sheryl A. Adams

Date:

1-27-07

Lot No., Due Date: J6L140151,J6L140156,J6L180168; 01/29/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 6353655; RTC99 Tc-99 by LSC

SDG, Matrix: W05078; WATER

8.0 Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02 Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04 The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => JLF3X1AE TCSG<>TCSE Q:V9	Yes	No	N/A
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06 At Least the Minimum Sample Volume Was Used OK	Yes	No	N/A
8.07 The Correct Count Geometry was Used. OK	Yes	No	N/A
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09 Method Blank is within Control Limits. OK	Yes	No	N/A
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes	No	N/A
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes	No	N/A
8.14 LCS within Control Limits. OK	Yes	No	N/A
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes	No	N/A
8.16 MS within Control Limits. OK	Yes	No	N/A
8.17 Tracer within Control Limits. No Tracers found in Batch!	Yes	No	N/A
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	Yes	No	N/A
8.19 Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22 Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc_IDL Not Calculated	Yes	No	N/A
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => TC-99 OK; No Callin Level Found => TC-99	Yes	No	N/A
8.24 Result + 3s >=0, Not Too Negative. Result + 3s < 0 JLTJ41AA TC-99 -4.5E-01	Yes	No	N/A
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A

8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.3 Comments:			
8.31 Results Blank Subtracted as Appropriate. OK	Yes	No	N/A <input checked="" type="checkbox"/>

First Level Review Pam Anderson Date 1-17-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353655  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

Therese A. Adams

Date:

1-18-07

Lot No., Due Date: J6L140151,J6L140161,J6L140110; 01/29/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 6353647; RTRITIUM H-3 by LSC

SDG, Matrix: W05078; WATER

8.0	Correction Calculation Protocol Used. OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JLFP21AA 5.00<10.00 JLF2P1AA 5.00<10.00 JLF421AA 5.00<10.00 Q:VB	Yes	No	N/A
8.07	The Correct Count Geometry was Used. Count Geometry => JLTJP1AF SVP15/5<>SVP10/10 JLTJP1AG SVP15/5<>SVP10/10 JLTJP1AA SVP15/5<>SVP10/10 JLTJP1AC SVP15/5<>SVP10/10 JLTJP1AD SVP15/5<>SVP10/10 JLTJP1AE SVP15/5<>SVP10/10 JLFP21AA SVP15/5<>SVP10/10 JLFP21AD SVP15/5<>SVP10/10 JLF2P1AA SVP15/5<>SVP10/10 JLF421AA SVP15/5<>SVP10/10 Q:VC	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes	No	N/A
8.09	Method Blank is within Control Limits. OK	Yes	No	N/A
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. OK	Yes	No	N/A
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes	No	N/A
8.13	QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> JLFP21AD H-3 1900.0 (RPD)	Yes	No	N/A
8.14	LCS within Control Limits. OK	Yes	No	N/A
8.15	MLCS within Control Limits. OK	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes	No	N/A
8.17	Tracer within Control Limits. No Tracers found in Batch!	Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	Yes	No	N/A
8.19	Sample Specific MDC <= CRDL. OK	Yes	No	N/A
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes	No	N/A
8.22	Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc_IDL Not Calculated	Yes	No	N/A

8.23	Result $\leq$ Action Level, when Defined. OK; No Action Level Found $\Rightarrow$ H-3  OK; No Callin Level Found $\Rightarrow$ H-3	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.24	Result + 3s $\geq 0$ , Not Too Negative. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.26	Instruments have Current Calibrations.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

First Level Review

*Pam Anderson*

Date 1-10-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353647  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review:

*Sheryl A Adams*

Date:

1-10-07

Lot No., Due Date: J6L180168; 01/29/2007  
Client, Site: 384868; PGW 615HANFORD HANFORD  
QC Batch No., Method Test: 6353654; RC14 C-14 by LSC  
SDG, Matrix: W05078; WATER

8.0 Correction Calculation Protocol Used. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.01 The Appropriate Methods Were Used To Analyze the Samples No Samples found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.02 Final Results Are in the Appropriate Activity Units No Samples found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.03 Batch Contains the Required QC Appropriate for the Method OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.06 At Least the Minimum Sample Volume Was Used OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.07 The Correct Count Geometry was Used. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.09 Method Blank is within Control Limits. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIs) found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> JLPE31AH C-14 190.0 (RPD) <i>Both Less than MDA dec 06 PA 1-24-07</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.14 LCS within Control Limits. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.17 Tracer within Control Limits. No Tracers found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. No Results found in Batch!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc IDL Not Calculated	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => C-14  OK; No Callin Level Found => C-14	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.24 Result + 3s >=0, Not Too Negative. OK	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.3 Comments:			
8.31 Results Blank Subtracted as Appropriate. OK	Yes	No	N/A <input checked="" type="checkbox"/>

First Level Review

*Angela Long*  
1/24/07

*Pam Anderson*

Date 1-24-07



# STL

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number:

6353654  
W05078

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

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Second Level Review:

*Sheryl A. Adams*

Date:

1-25-07

Lot No., Due Date: J6L130210,J6L140170,J6L140107,J6L140291,J6L140251; 01/29/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 6353645; RUNAT UNat by KPA

SDG, Matrix: W05078; WATER

**1.0 COC**

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

**2.0 QC Batch**

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

**3.0 QC & Samples**

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

**4.0 Raw Data**

4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

**5.0 Other**

5.1 Are all nonconformances included and noted?

Yes No N/A

5.2 Are all required forms filled out?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

Yes No N/A

6.0 Comments on any No response:

First Level Review

*Pam Anderson*

Date

1-25-07

Data Review Checklist  
RADIOCHEMISTRY  
Second Level Review

QC Batch Number: 635 3045

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?	✓		
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Second Level Review:

Erika Jrd

Date:

1/25/17

PNNL JL 130210 W05078 Due 07-25-07		<h2 style="margin:0;">CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</h2>		C.O.C. # <h1 style="margin:0;">S07-012-380</h1>	
Collector <b>FLUOR HANFORD</b> <b>M.R. WEIL</b>		Contact/Requester Dot Stewart		Telephone No. <b>MSIN</b> <b>FAX</b> 509-376-5056	
SAF No. S07-012		Sampling Origin Hanford Site		Purchase Order/Charge Code	
Project Title SURV. DECEMBER 2006		<b>HNF + N-S06-3</b>		Ice Chest No. <b>SAWS-115</b> Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle		Bill of Lading/Air Bill No.	
Protocol SURV		Priority: 45 Days		Offsite Property No.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1LCY0		W	12/11/06	1217	1x20-mL P	Activity Scan	None
B1LCY0		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2
B1LCY0		W	↓	↓	1x1000-mL G/P	UIISO_PLATE_AEA: List-1 (3)	HNO3 to pH <2
B1LCY0		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2


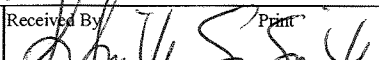
Relinquished By <b>FLUOR HANFORD</b> <b>M.R. WEIL</b>		Date/Time 1500	Received By <b>J. Smith</b> <b>J. Smith</b>		Date/Time 1500	<b>Matrix *</b> S = Soil      DS = Drum Solid SE = Sediment      DI = Drum Liquid SO = Solid      T = Tissue SL = Sludge      WI = Wine W = Water      L = Liquid O = Oil      V = Vegetation A = Air      X = Other	
Relinquished By		Date/Time	Received By		Date/Time		
Relinquished By		Date/Time	Received By		Date/Time		
Relinquished By		Date/Time	Received By		Date/Time		
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	Date/Time

[illegible]



PNNL <i>6 L 130210</i> <i>W05078</i> <i>Due 07.25.07</i>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-012-404</b>
		Page <u>1</u> of <u>1</u>		
<b>Collector</b> <b>D. P. CONNOLLY</b>	<b>Contact/Requester</b> Dot Stewart	<b>Telephone No.</b> 509-376-5056	<b>MSIN</b>	<b>FAX</b>
<b>SAF No.</b> S07-012	<b>Sampling Origin</b> Hanford Site	<b>Purchase Order/Charge Code</b>		
<b>Project Title</b> SURV. DECEMBER 2006	<b>Logbook:</b> HNF-N-SDG-4	<b>Ice Chest No.</b> JF-1	<b>Temp.</b>	
<b>Shipped To (Lab)</b> Severn Trent Incorporated, Richland	<b>Method of Shipment</b> Govt. Vehicle	<b>Bill of Lading/Air Bill No.</b>		
<b>Protocol</b> SURV	<b>Priority:</b> 45 Days	<b>Offsite Property No.</b>		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		
		<b>Hold Time</b>	<b>Total Activity Exemption:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

[illegible]

Relinquished By <b>D. P. CONNOLLY</b>	Print 	Sign	Date/Time <b>DEC 11 2006</b>	Received By 	Print <b>D. Smith</b>	Sign	Date/Time <b>DEC 11 2006</b>	Matrix *	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air	DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine LI = Liquid V = Vegetation X = Other
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time		
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time	









# STL

## Sample Check-in List

Date/Time Received: 12-11-06 1500

Client: P6W SDG #: W05078 NA ☐ SAF #: 807-012 NA ☐

Work Order Number: UGL130210

Chain of Custody # 807-012-292, 276, 396, 404,

Shipping Container ID: SAWS-115  
JE-1

Air Bill # N/A  
388, 380, 372

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 7
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH < 2 ☒ pH > 2 ☐ pH > 9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12-11-06 1500

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

[ ] No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL 562140107 W05078 Due 01-26-07		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-012-412</b>	
				Page <u>1</u> of <u>1</u>	
<b>Collector</b> Fluor Hanford D. R. BREWINGTON	<b>Contact/Requester</b> Dot Stewart	<b>Telephone No.</b> 509-376-5056	<b>MSIN</b>	<b>FAX</b>	
<b>SAF No.</b> S07-012	<b>Sampling Origin</b> Hanford Site	<b>Purchase Order/Charge Code</b>			
<b>Project Title</b> SURV. DECEMBER 2006	HNF W-506 1	<b>Ice Chest No.</b> ROSS	<b>Temp.</b>		
<b>Shipped To (Lab)</b> Severn Trent Incorporated, Richland	<b>Method of Shipment</b> Govt. Vehicle	<b>Bill of Lading/Air Bill No.</b>			
<b>Protocol</b> SURV	<b>Priority:</b> 45 Days		<b>Offsite Property No.</b>		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.			

[illegible]

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *	
Fluor Hanford D. R. BREWINGTON			DEC 12 2006	D. Smith S. Smith			DEC 12 2006	S = Soil	DS = Drum Solid
Relinquished By			Date/Time	Received By			Date/Time	SE = Sediment	DL = Drum Liquid
Relinquished By			Date/Time	Received By			Date/Time	SO = Solid	T = Tissue
Relinquished By			Date/Time	Received By			Date/Time	SL = Sludge	WL = Wine
Relinquished By			Date/Time	Received By			Date/Time	W = Water	L = Liquid
Relinquished By			Date/Time	Received By			Date/Time	O = Oil	V = Vegetation
Relinquished By			Date/Time	Received By			Date/Time	A = Air	X = Other
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By		Date/Time



PNNL <i>62140107</i> <i>W05078</i> <i>Due 01-26-07</i>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-012-420</b>
		Page <u>1</u> of <u>1</u>		
<b>Collector</b> Fluor Hanford D. R. BREWINGTON	<b>Contact/Requester</b> Dot Stewart	<b>Telephone No.</b> 509-376-5056	<b>MSIN</b> 509-376-5056	<b>FAX</b> 509-376-5056
<b>SAF No.</b> S07-012	<b>Sampling Origin</b> Hanford Site	<b>Purchase Order/Charge Code</b>		
<b>Project Title</b> SURV. DECEMBER 2006	<b>4NF-N-506</b>	<b>Ice Chest No.</b> ROSS	<b>Temp.</b>	
<b>Shipped To (Lab)</b> Severn Trent Incorporated, Richland	<b>Method of Shipment</b> Govt. Vehicle	<b>Bill of Lading/Air Bill No.</b>		
<b>Protocol</b> SURV	<b>Priority:</b> 45 Days	<b>Offsite Property No.</b>		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		
		<b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

[illegible]

Relinquished By	Print D. R. BREWINGTON	Sign <i>[Signature]</i>	Date/Time DEC 12 2008	Received By	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 12 2008	Matrix *																																									
Relinquished By	Date/Time	Received By	Date/Time	<table border="0"> <tr> <td>S</td><td>=</td><td>Soil</td> <td>DS</td><td>=</td><td>Drum Solid</td> </tr> <tr> <td>SE</td><td>=</td><td>Sediment</td> <td>DL</td><td>=</td><td>Drum Liquid</td> </tr> <tr> <td>SO</td><td>=</td><td>Solid</td> <td>T</td><td>=</td><td>Tissue</td> </tr> <tr> <td>SL</td><td>=</td><td>Sludge</td> <td>WI</td><td>=</td><td>Wine</td> </tr> <tr> <td>W</td><td>=</td><td>Water</td> <td>L</td><td>=</td><td>Liquid</td> </tr> <tr> <td>O</td><td>=</td><td>Oil</td> <td>V</td><td>=</td><td>Vegetation</td> </tr> <tr> <td>A</td><td>=</td><td>Air</td> <td>X</td><td>=</td><td>Other</td> </tr> </table>				S	=	Soil	DS	=	Drum Solid	SE	=	Sediment	DL	=	Drum Liquid	SO	=	Solid	T	=	Tissue	SL	=	Sludge	WI	=	Wine	W	=	Water	L	=	Liquid	O	=	Oil	V	=	Vegetation	A	=	Air	X	=	Other
S	=	Soil	DS					=	Drum Solid																																								
SE	=	Sediment	DL					=	Drum Liquid																																								
SO	=	Solid	T	=	Tissue																																												
SL	=	Sludge	WI	=	Wine																																												
W	=	Water	L	=	Liquid																																												
O	=	Oil	V	=	Vegetation																																												
A	=	Air	X	=	Other																																												
Relinquished By	Date/Time	Received By	Date/Time																																														
Relinquished By	Date/Time	Received By	Date/Time																																														
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time																																										



# STL

## Sample Check-in List

Date/Time Received: 12-12-06 1400

Client: P6W SDG #: W05078 NA ☐ SAF #: 807-012 NA ☐

Work Order Number: UGL140107 Chain of Custody # 807-012-420, 428, 412

Shipping Container ID: ROSS Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☐ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH < 2 ☒ pH > 2 ☐ pH > 9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: A. Smith Date: 12-12-06 1400

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL <i>UG 4140110</i> <i>W05078</i> <i>Dec 01-26-07</i>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-010-297</b>
		Page <u>1</u> of <u>1</u>		
<b>Collector</b> Fluor Hanford D. R. BREWINGTON	<b>Contact/Requester</b> Dot Stewart	<b>Telephone No.</b> 509-376-5056	<b>MSIN</b>	<b>FAX</b>
<b>SAF No.</b> S07-010	<b>Sampling Origin</b> Hanford Site	<b>Purchase Order/Charge Code</b>		
<b>Project Title</b> SURV. OCTOBER 2006	<i>HNF-N-SOG 1</i>	<b>Ice Chest No.</b> <i>ROSS</i>	<b>Temp.</b>	
<b>Shipped To (Lab)</b> Severn Trent Incorporated, Richland	<b>Method of Shipment</b> Govt. Vehicle	<b>Bill of Lading/Air Bill No.</b>		
<b>Protocol</b> SURV	<b>Priority:</b> 45 Days	<b>Offsite Property No.</b>		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all PNNL GW samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL		

[illegible]

Relinquished By Print <b>D. R. BREWINGTON</b> Sign <i>[Signature]</i>	Date/Time <b>DEC 12 2006</b>	Received By Print <i>S. Smith</i> Sign <i>S. Smith</i>	Date/Time <b>DEC 12 2006</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

Matrix *					
S	=	Soil	DS	=	Drum Solid
SE	=	Sediment	DL	=	Drum Liquid
SO	=	Solid	T	=	Tissue
SL	=	Sludge	WI	=	Wine
W	=	Water	L	=	Liquid
O	=	Oil	V	=	Vegetation
A	=	Air	X	=	Other



# STL

## Sample Check-in List

Date/Time Received: 12-12-06 14:00

Client: P6W SDG #: W05078 NA ☐ SAF #: 807-010 NA ☐

Work Order Number: U6L140110 Chain of Custody # 807-010-297

Shipping Container ID: ROSS Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: A. Smith Date: 12-12-06 14:00

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL 62140151 W05078 due 01.26.07		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>W07-011-426</b>	
Collector Fluor Hanford R. T. SICKLE		Contact/Requester Dot Stewart		Telephone No. MSIN FAX 509-376-5056	
SAF No. W07-011		Sampling Origin Hanford Site		Purchase Order/Charge Code	
Project Title RCRA, NOVEMBER 2006		Logbook: HNF-N-SDG-4		Ice Chest No. JF-1 Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle		Bill of Lading/Air Bill No.	
Protocol RCRA		Priority: 45 Days		Offsite Property No.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		
			<b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

[illegible]

Relinquished By	Print Fluor Hanford R. T. SICKLE	Signature <i>[Signature]</i>	Date/Time DEC 12 2006 1500	Received By	Print S. Smith	Signature <i>[Signature]</i>	Date/Time DEC 12 2006 1500	Matrix *	
Relinquished By			Date/Time	Received By			Date/Time	S = Soil SF = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air	DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time		
Relinquished By			Date/Time	Received By			Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time		



STL

## Sample Check-in List

Date/Time Received: 12.12.06 1500Client: P6W SDG #: W05078 NA ☐ SAF #: W07-011 NA ☐Work Order Number: UGL140751 Chain of Custody #: W07-011-426Shipping Container ID: 5F-1 Air Bill #: N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals ☒ appropriate samples labels
9. Samples are:  
☒ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12.12.06 1500

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL J6L140156 W05078		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>I07-010-104</b>
Collector Fluor Hanford R. T. SICKLE		Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. I07-010		Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 2ZP1-I-OL NOVEMBER 2006		Logbook: HNF-N-506-4	Ice Chest No. JF-1	Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol CERCLA		Priority: 45 Days	Offsite Property No.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #	
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I07-010-104

Page 1 of 1

Collector Fluor Hanford R. T. SICKLE	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. 107-010	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title 2ZP1-I.OI NOVEMBER 2006	Logbook: HNF-N-506-4	Ice Chest No.	JF-1	Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol CERCLA	Priority: 45 Days	Offsite Property No.		

Contact/Requester
Dot Stewart

**Telephone No.**  
509-376-5056

MSIN

FAX

SAF No.

I07-010

Sampling Origin	Sampling Date	Sampling Time	Sampling Location	Sampling Method	Sampling Result
...	...	...	...	...	...

Hanford Site

Purchase Order/Charge Code	
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Project Title

2ZP1-LOL NOVEMBER 2006

Logbook: HNF-N-506-4

Ice Chest No.,

Temp.

### Shinned To (Lab)

Severn Trent Incorporated, Richland

**Method of Shipment**

Govt. Vehicle

Bill of Lading/Air Bill No.

## Protocol

CERCLA

**Priority:** 45 Days

Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS	
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\*\* \*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

## SPECIAL INSTRUCTIONS



### Hold Time

Total Activity Exemption: Yes ☒ No ☐

All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.

WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1L2C8		W	12/12/06	1314	1x20-mL P	Activity Scan	None
B1L2C8		W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1L2C8		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1L2C8		W	↓	↓	3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2
JLF.34							
J. Wall 12/12/06							

Relinquished By R. T. SICKLE	Print 	Sign	Date/Time DEC 12 2006	Received By D. Smith & Smith	Print 	Sign	Date/Time DEC 12 2006	Matrix *  S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time





# STL

## Sample Check-in List

Date/Time Received: 12.12.06 1500

Client: PBW SDG #: W05078 NA ☐ SAF #: I07-010 NA ☐

Work Order Number: 06L140156 Chain of Custody # I07-010-42, 104

Shipping Container ID: JF-1 Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12.12.06 1500

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_





# STL

## Sample Check-in List

Date/Time Received: 12-12-06 1521

Client: P6W SDG #: W05078 NA ☐ SAF #: I07-006 NA ☐

Work Order Number: 062140161 Chain of Custody # I07-006-130

Shipping Container ID: SAWS115 Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12-12-06 1521

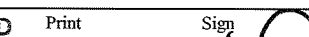
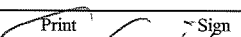
Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL J6L140170 W05078		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>I07-011-148</b>
Collector <b>FLUOR HANFORD</b> <b>M.R. WEIL</b>		Contact/Requester Dot Stewart	Telephone No. <b>MSIN</b> 509-376-5056	Page <u>1</u> of <u>1</u>
SAF No. I07-011	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title ISRM-LOI NOVEMBER 2006	<b>HNF-N-506 3</b>	Ice Chest No. <b>5AW3115</b>	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol CERCLA	Priority: 45 Days	Offsite Property No.		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure		

Relinquished By	Print M.R. WEIL	Signature 	Date/Time DEC 12 2006	Received By	Print L. Smith	Signature 	Date/Time DEC 12 2006	Matrix *	
Relinquished By	Date/Time			Received By	Date/Time			S = Soil SF = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air	DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine LI = Liquid V = Vegetation X = Other
Relinquished By	Date/Time			Received By	Date/Time				
Relinquished By	Date/Time			Received By	Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time		



# STL

## Sample Check-in List

Date/Time Received: 12-12-06 1520

Client: P&W SDG #: W05078 NA ☐ SAF #: I07-011 NA ☐

Work Order Number: U62140170 Chain of Custody #: I07-011-148

Shipping Container ID: RA-SAWS 115 Air Bill #: N/A  
SKS12/14/06

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☐ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12-12-06 1520

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

[ ] No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL 66140251 W05078 Due 01.26.07		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-012-364</b>
Collector <b>FLUOR HANFORD</b> <b>M.R. WEIL</b>		Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN FAX
SAF No. S07-012		Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title SURV. DECEMBER 2006		HNF-M-506	Ice Chest No. SAMS 115	Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol SURV		Priority: 45 Days	Offsite Property No.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		

[illegible]

Relinquished By <b>FLUOR HANFORD</b> <b>M.R. WEIL</b>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time <b>DEC 13 2006</b>	Received By <i>[Signature]</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time <b>DEC 13 2006</b>	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other				
Relinquished By	Date/Time	Received By	Date/Time					
Relinquished By	Date/Time	Received By	Date/Time					
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time		



# STL

## Sample Check-in List

Date/Time Received: 12-13-06 0930

Client: P6W SDG #: W05078 NA ☐ SAF #: 507-012 NA ☐

Work Order Number: 251 58 J6L 140364 Chain of Custody # 507-012-364

Shipping Container ID: SAWS115 Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH < 2 ☒ pH > 2 ☐ pH > 9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: L. Smith Date: 12-13-06 09:30

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

[ ] No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_





# STL

## Sample Check-in List

Date/Time Received: 12-13-06 09:35

Client: POW SDG #: W05078 NA ☐ SAF #: 507-012 NA ☐

Work Order Number: UGL140291 Chain of Custody #: 507-012-260

Shipping Container ID: SML-562 Air Bill #: N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☐ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12-13-06 0935

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.



Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL <i>U6 L 180167</i> <i>W05078</i> <i>Due 01-29-07</i>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>S07-010-2</b>
		Page <u>1</u> of <u>1</u>		
<b>Collector</b> Fluor Hanford <b>R. T. SICKLE</b>	<b>Contact/Requester</b> Dot Stewart	<b>Telephone No.</b> 509-376-5056	<b>MSIN</b>	<b>FAX</b>
<b>SAF No.</b> S07-010	<b>Sampling Origin</b> Hanford Site	<b>Purchase Order/Charge Code</b>		
<b>Project Title</b> SURV. OCTOBER 2006	<i>HNF-N-506-3</i>	<b>Ice Chest No.</b> <i>5HWS115</i>	<b>Temp.</b>	
<b>Shipped To (Lab)</b> Severn Trent Incorporated, Richland	<b>Method of Shipment</b> Govt. Vehicle	<b>Bill of Lading/Air Bill No.</b>		
<b>Protocol</b> SURV	<b>Priority:</b> 45 Days	<b>Offsite Property No.</b>		
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		<b>SPECIAL INSTRUCTIONS</b> All Labs except WSCF: Batch all PNNL GW samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL		
		<b>Hold Time</b>	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Collector Fluor Hanford R. T. SICKLE	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. S07-010	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title SURV. OCTOBER 2006	LINF-N-506-3	Ice Chest No.	Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> <b>** **</b> Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	<div> <b>SPECIAL INSTRUCTIONS</b> <div> <b>Hold Time</b> <div> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> </div> </div> </div> <div> All Labs except WSCF: Batch all PNNL GW samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.  Submit invoices &amp; deliverables to DL Stewart, PNNL </div>
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[illegible]

Relinquished By Fluor Hanford R. T. SICKLE	Print 	Sign	Date/Time DEC 14 2006 1330	Received By S. Smith S. Smith	Print 	Sign	Date/Time DEC 14 2006 1330	Matrix *	
Relinquished By	Date/Time	Received By	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air		DS = Drum Solid DL = Drum Liquid T = Tissue WI = Wine L = Liquid V = Vegetation X = Other			
Relinquished By	Date/Time	Received By	Date/Time						
Relinquished By	Date/Time	Received By	Date/Time						
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time			

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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# STL

## Sample Check-in List

Date/Time Received: 12-14-06 1330

Client: P6W SDG #: W05078 NA ☐ SAF #: 507-010 NA ☐

Work Order Number: 062180167 Chain of Custody # 507-010-2

Shipping Container ID: SAWS115 Air Bill # N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_\_ tape \_\_\_\_\_ hazard labels  
\_\_\_\_\_ custody seals \_\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_\_ in good condition \_\_\_\_\_ leaking  
\_\_\_\_\_ broken \_\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☐ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: S. Smith Date: 12-14-06 1330

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

PNNL <i>U6 L180168</i> <i>W05078</i> <i>due 01-29-07</i>		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # <b>I07-009-33</b>	
				Page <u>1</u> of <u>1</u>	
Collector Fluor Hanford D. E. PARCHEN		Contact/Requester Dot Stewart		Telephone No. MSIN FAX 509-376-5056	
SAF No. I07-009		Sampling Origin Hanford Site		Purchase Order/Charge Code	
Project Title 2UP1-LOI, NOVEMBER 2006		<i>Logbook: HNF-N-506-4</i>		Ice Chest No. <i>GRP-03-011</i> Temp.	
Shipped To (Lab) Severn Trent Incorporated, Richland		Method of Shipment Govt. Vehicle		Bill of Lading/Air Bill No.	
Protocol SURV		Priority: 45 Days		Offsite Property No.	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b> ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			<b>SPECIAL INSTRUCTIONS</b> <b>Hold Time</b> Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1L1X9		W	<i>12/14/06</i>	<i>1114</i>	1x20-mL P	Activity Scan	None
B1L1X9		W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1L1X9		W			2x1000-mL G/P	C14_LSC: C-14 (1)	None
B1L1X9		W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	HNO3 to pH <2
B1L1X9		W			1x1000-mL G/P	NP237_LLE_PLATE_AEA:Np-237(1)	HNO3 to pH <2
B1L1X9		W			3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2
B1L1X9		W			1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
						<i>JLPE3</i>	

Relinquished By Fluor Hanford D. E. PARCHEN		Print <i>D. E. PARCHEN</i>		Sign <i>[Signature]</i>		Date/Time <b>DEC 14 2006</b>		Received By <i>[Signature]</i>		Print <i>S. Smith</i>		Sign <i>[Signature]</i>		Date/Time <b>DEC 14 2006</b>		Matrix * S = Soil      DS = Drum Solid SE = Sediment      DI = Drum Liquid SO = Solid      T = Tissue SL = Sludge      WI = Wine W = Water      L = Liquid O = Oil      V = Vegetation A = Air      X = Other	
Relinquished By						Date/Time		Received By				Date/Time					
Relinquished By						Date/Time		Received By				Date/Time					
Relinquished By						Date/Time		Received By				Date/Time					
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process)										Disposed By		Date/Time			



# STL

## Sample Check-in List

Date/Time Received: 12-14-06 1345

Client: POW SDG #: W05078 NA ☐ SAF #: I07-009 NA ☐

Work Order Number: U6L180168 Chain of Custody #: I07-009-33

Shipping Container ID: GRP-03-011 Air Bill #: N/A

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: \_\_\_\_\_ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:  
\_\_\_\_ tape  
\_\_\_\_ custody seals  
\_\_\_\_ hazard labels  
\_\_\_\_ appropriate samples labels
9. Samples are:  
\_\_\_\_ in good condition  
\_\_\_\_ broken  
\_\_\_\_ leaking  
\_\_\_\_ have air bubbles  
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH<2 ☒ pH>2 ☒ pH>9 ☐
11. Sample Location, Sample Collector Listed? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: A. Smith Date: 12-14-06 1345

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☐ No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_